



DOJ/FTC HEARINGS ON COMPETITION AND INTELLECTUAL PROPERTY LAW IN THE KNOWLEDGE-BASED ECONOMY

COMPETITION AND INNOVATION IN THE CONTEXT OF NETWORK ECONOMICS

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OVERVIEW

- 1995 IP GUIDELINES DO NOT EXPRESSLY ADDRESS INTELLECTUAL PROPERTY & ANTITRUST IN NETWORK CONTEXT
 - GUIDELINES' STANDARD SETTING, CROSS-LICENSING, AND EXCLUSIVITY SECTIONS ARE RELEVANT IN NETWORK CONTEXT
- NUMEROUS IP/ANTITRUST ENFORCEMENT ACTIONS AND LITIGATION HAVE INVOLVED NETWORK ISSUES
- EXTENSIVE ECONOMIC LITERATURE ON NETWORK EFFECTS AND APPLICATIONS
 - LITERATURE HAS SUBSTANTIAL INSIGHTS FOR IP ISSUES IN NETWORK CONTEXTS

OVERVIEW OF NETWORK ECONOMICS

NETWORK TYPES

- ACTUAL, PHYSICAL NETWORKS
 - DURABLE ASSETS; CONNECTIONS AMONG USERS
- “VIRTUAL” NETWORKS
 - HARDWARE SOFTWARE; NETWORK OF USERS
- NETWORK AS SYSTEM
 - COMPETITION BETWEEN NETWORKS
- NETWORK AS PRODUCT
 - COMPETITION ON PRODUCT, PRICE

OVERVIEW OF NETWORK ECONOMICS

NETWORK PROPERTIES

- DEMAND-SIDE EXTERNALITIES
 - INCREASED VALUE OF NETWORK TO USERS WITH SIZE OF NETWORK
 - CRITICAL MASS
 - DIRECT AND INDIRECT EFFECTS
- SUPPLY-SIDE EXTERNALITIES
 - ECONOMIES OF SCALE AND SCOPE
- EXTENT OF NETWORK EXTERNALITIES IS INDUSTRY OR TECHNOLOGY SPECIFIC

OVERVIEW OF NETWORK ECONOMICS

NETWORK COMPETITION & INNOVATION

- NETWORK ENTRY AND COMPETITION ANALYSIS PROVIDE INSIGHTS INTO IP ISSUES IN NETWORK CONTEXT
- DIFFERENT MARKETPLACE OUTCOMES ARE POSSIBLE—NATURE OF THE NETWORK MATTERS
- MARKETPLACE OUTCOMES DETERMINE BOTH PROCESS/NATURE OF COMPETITION AND INNOVATION

OVERVIEW OF NETWORK ECONOMICS OUTCOMES & COMPETITIVE IMPLICATIONS

- REQUIREMENTS FOR SUCCESSFUL NETWORK ENTRY & EXPANSION
 - ACHIEVING DEMAND & SUPPLY EXTERNALITIES
 - COORDINATION, STANDARDS, COMPATIBILITY
- NETWORK OUTCOME #1: SINGLE NETWORK/SINGLE PRODUCT
 - COMPETITION TO BE THE “MONOPOLIST”
 - OPEN VS. CLOSED
- NETWORK OUTCOME #2: MULTIPLE NETWORKS/SINGLE PRODUCT
 - COMPETITION FOR USERS, “VOLUME”

OVERVIEW OF NETWORK ECONOMICS

NETWORK ENTRY AND COMPETITION

- REQUIREMENTS FOR NETWORK ENTRY :
 - ACHIEVING CRITICAL MASS - NETWORK SCALE (DEMAND AND SUPPLY-SIDE)
 - COMPATIBILITY ISSUES
 - SWITCHING COSTS
 - ROLE OF EXPECTATIONS AND MARKET RESPONSE TO NEW NETWORK/PRODUCT
 - SIZE OF MARKET; RETURNS FROM INNOVATION AND TO INNOVATOR

OVERVIEW OF NETWORK ECONOMICS

NETWORK ENTRY AND COMPETITION

• IMPLICATIONS OF OUTCOME #1:

- COMPETITION TO BE THE MONOPOLIST
- NATURE OF INNOVATION PROCESS TO ACCOMPLISH NETWORK EFFECTS
- MAY REQUIRE SUBSTANTIAL COORDINATION FOR PRODUCT TO EXIST
- GAINS ARE FROM COMPETITIVE PROCESS

• IMPLICATIONS OF OUTCOME #2:

- INTER-NETWORK COMPETITION
- COMPETITION ON PRODUCT AND PRICE



OVERVIEW OF NETWORK ECONOMICS

NETWORK ENTRY AND COMPETITION

- ☀ INNOVATION RELEVANT TO IP ISSUES IN NETWORK INDUSTRIES

- “INCREMENTAL/EVOLUTIONARY”

- “RADICAL/REVOLUTIONARY”

OVERVIEW OF NETWORK ECONOMICS

APPROACHES TO INNOVATION IN A NETWORK CONTEXT

- “INCREMENTAL/EVOLUTIONARY”
 - COMPATIBILITY WITH EXISTING TECHNOLOGY
 - EASE OF ATTRACTING USERS FROM INCUMBENTS –LOWER SWITCHING AND OPPORTUNITY COSTS
 - COMPETITION AMONG NETWORKS AND PRODUCTS
 - POSSIBLY LOWER PERFORMANCE GAINS



OVERVIEW OF NETWORK ECONOMICS APPROACHES TO INNOVATION IN A NETWORK CONTEXT

- “RADICAL/REVOLUTIONARY”
 - INCOMPATIBLE PRODUCTS –SWITCHING COSTS
 - GREATER PROSPECT OF “WINNER-TAKE-ALL”

OVERVIEW OF NETWORK ECONOMICS

WHAT IP ISSUES ARE RELEVANT TO NETWORKS?

- ACHIEVING DEMAND AND SUPPLY SIDE EXTERNALITIES -- SUBSTANTIAL COORDINATION (HORIZONTAL AND VERTICAL)
- USE OF COMMON ASSETS (WHO OWNS)
- SIZE AND NETWORK SHARE OF “MARKET”
- ABILITY OF USERS TO BELONG TO MORE THAN ONE NETWORK
- ROLE OF IP TO PROTECT PROPERTY RIGHTS OF NETWORKS AND PARTICIPANTS WHILE ALLOWING NEW PRODUCTS TO DEVELOP

OVERVIEW OF NETWORK ECONOMICS

WHAT NETWORK ISSUES ARE RELEVANT TO IP?

- EVALUATING ANTITRUST-RELATED IP ISSUES IN NETWORK CONTEXT
 - CONSIDER NETWORK ATTRIBUTES, TYPE, PROPERTIES, & REQUIREMENTS FOR ENTRY AND EXPANSION –THIS WILL INFORM ANALYSIS OF BALANCE
- EVALUATION OF STANDARD SETTING OR COORDINATION OF COMPLEMENTARY ASSETS:
 - NETWORK OR PRODUCT WOULD NOT DEVELOP
 - OWNERSHIP OF STANDARD

OVERVIEW OF NETWORK ECONOMICS

WHAT NETWORK ISSUES ARE RELEVANT TO IP?

✿ “INVENTING AROUND PATENTS”

- IN THE PRESENCE OF PATENTS OR NEED FOR COMPLEX CROSS-LICENSING ARRANGEMENTS, INCREMENTAL OR EVOLUTIONARY APPROACH MAY BE LESS ATTRACTIVE STRATEGY
- INCREASED RISK OF STRANDED PRODUCT AND UNWILLINGNESS OF CONSUMERS TO EXPERIMENT



OVERVIEW OF NETWORK ECONOMICS

WHAT NETWORK ISSUES ARE RELEVANT TO IP?

- EVALUATION OF BUSINESS PRACTICES BY SINGLE NETWORK OR IN CONTEXT OF INTER-NETWORK COMPETITION
 - MERGER AND JOINT VENTURE ANALYSIS
 - EFFECTS OF EXCLUSIONARY PRACTICES
 - PROMOTING NETWORK VS. ENTRY DETERRENCE OR FORECLOSURE

OVERVIEW OF NETWORK ECONOMICS SUMMARY

- EXTENSIVE ECONOMIC LITERATURE ON NETWORK EFFECTS
 - APPLICATIONS TO WIDE VARIETY OF NETWORK TYPES AND COMPETITIVE SITUATIONS
 - DIFFERENCES IN NETWORK PROPERTIES AFFECT BOTH COMPETITIVE PROCESS AND OUTCOMES
- VIRTUALLY ALL NETWORK CONTEXTS INVOLVE KEY IP ISSUES
 - COORDINATION, STANDARDS, LICENSING, ETC.
- ANALYSIS OF ANTITRUST IMPLICATIONS OF IP ISSUES IN NETWORK CONTEXTS IS COMPLICATED BY NETWORK EFFECTS